

## Spectral kinetic properties of Yb<sup>3+</sup>:Na<sub>4</sub>Y<sub>6</sub>F<sub>22</sub> and Yb<sup>3+</sup>:LiLuF<sub>4</sub> crystals

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### Abstract

Yb<sup>3+</sup> (2.7 at.%):Na<sub>4</sub>Y<sub>6</sub>F<sub>22</sub> and Yb<sup>3+</sup>(1 at.%):LiLuF<sub>4</sub> crystals were grown by the Bridgman-Stockbarger method. We measured the temperature dependences of the thermal conductivity of the crystals and the absorption spectra. We determined the radiative lifetime of the Yb<sup>3+</sup> ion in these crystals (1.94 msec and 2.13 msec) and calculated the stimulated emission cross section spectra. © 2007 Springer Science+Business Media, Inc.

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### Keywords

Absorption cross section spectra, Femtosecond lasers, Fluoride crystals, Stimulated emission cross section spectra, Ytterbium ions